



Department  
for Environment  
Food & Rural Affairs

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# **Post-Adoption Statement – National Policy Statement for Hazardous Waste**

July 2013

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Any enquiries regarding this document/publication should be sent to us at:  
EU and International Waste Team  
Department for Environment, Food and Rural Affairs (Defra)  
Area 2B, Nobel House  
17 Smith Square  
LONDON SW1P 3JR

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# 1. Introduction

## 1.1 The National Policy Statement for Hazardous Waste

1.1.1 The Planning Act 2008 provides for a series of National Policy Statements (NPSs) which provide the framework for decision-making on individual applications for development consent for nationally significant infrastructure projects (NSIPs). The Secretary of State for Environment, Food and Rural Affairs is responsible for the production of a National Policy Statement for Hazardous Waste. This sets out Government policy on the management of hazardous waste and the types of nationally significant facilities needed. It will be used by decision makers to guide decision making on development consent applications for hazardous waste developments falling within the definition of Nationally Significant Infrastructure Project (NSIP) as defined in the Planning Act 2008.

1.1.2 The Planning Act covers the examination of planning applications and decisions for the following hazardous waste NSIPs in England:

- Construction of facilities in England where the main purpose of the facility is expected to be the final disposal, or recovery of hazardous waste and the capacity is expected to be:
  - in the case of the disposal of hazardous waste by landfill or in a deep storage facility<sup>1</sup>, more than 100,000 tonnes<sup>2</sup> per year;
  - in any other case, more than 30,000 tonnes per year.
- The alteration of a hazardous waste facility in England where the main purpose of the facility is the final disposal or recovery of hazardous waste and the alteration is expected to have the following effect:
  - in the case of the disposal of hazardous waste by landfill or in a deep storage facility, **to increase by more than 100,000 tonnes per year** the capacity of the facility;
  - in any other case, **to increase by more than 30,000 tonnes per year** the capacity of the facility.

1.1.3 The NPS for Hazardous Waste was designated for the purposes of the Planning Act 2008 and adopted for the purposes of the SEA Directive on 1<sup>8</sup> July 2013. Copies of the NPS for Hazardous Waste and the accompanying documents are available free of charge at [www.gov.uk](http://www.gov.uk).

## 1.2 Appraisal of Sustainability (AoS)/Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA)

1.2.1 The Planning Act 2008 requires that before a statement can be designated as an NPS, the Secretary of State must carry out an appraisal of sustainability (AoS) of the policy set out in the statement. The Secretary of State must exercise functions relating to the designation of national policy statements with the objective of contributing to the achievement of

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1 "Deep Storage facility" means a facility for the storage of waste underground in a deep geological cavity.

2 The thresholds are based on the **total** weight of the waste, not just on the weight of any hazardous components.

sustainable development, in particular having regard to mitigating and adapting to climate change and achieving good design.

- 1.2.2 EU law requires, in the Strategic Environmental Assessment (“SEA”) Directive (2001/42/EC), that before a plan or programme which establishes the framework for development consent is adopted, it should be subject to consultation alongside an environmental report which identifies, describes and evaluates the significant effects which its implementation is likely to have on the environment. The objective of the SEA Directive is to provide for a high level of protection of the environment and for environmental considerations to be integrated into the preparation and adoption of plans and programmes, with a view to promoting sustainable development. Amongst other things, the NPSs are a plan or programme for the purposes of the Directive.
- 1.2.3 The AoS Reports which were published with the revised draft NPS for Hazardous Waste for consultation in July 2011 combine the functions of AoSs under the Act and environmental reports under the SEA Directive. They examine the likely environmental, social and economic effects of the draft NPS, consider and compare reasonable alternatives to them, identify any potential significant adverse effects they may have, and recommend options for avoiding or mitigating such effects.
- 1.2.4 The Habitats Regulations Assessment (HRA) examines the potential effects of a plan or project on nature conservation sites that are designated to be of European importance. These sites are referred to as Natura 2000 sites or European Sites. A HRA has been carried out for the Hazardous Waste NPS because it is considered to be a “plan” for the purposes of the European Habitats Directive<sup>3</sup>. The HRA assesses the effects of the policy in the NPS.
- 1.2.5 Like the AoS, the HRA is a strategic-level stage in the process of ensuring that the potential impacts of new hazardous waste infrastructure are properly considered. The Government has taken account of the findings of the AoS, the HRA and the public consultation before designating the NPS for Hazardous Waste.
- 1.2.6 All individual applications for projects which are likely to have a significant effect on the environment will also need to be accompanied by an Environmental Statement (ES) in accordance with the European Environmental Impact Assessment Directive<sup>4</sup>. The ES for an application will include a more detailed assessment of potential environmental impacts likely to result from developing new hazardous waste infrastructure on a particular site. There may also need to be a more detailed HRA at the project level.

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<sup>3</sup> Directive 92/43/EEC on the conservation of natural habitat and of wild fauna and flora implemented through The Conservation (Natural Habitats, &c) Regulations 1994 (as amended).

<sup>4</sup> Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, amended by Directives 97/11/EC and 2003/35/EC. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009.

## 1.3 Consultation

1.3.1 The AoS was also subject to consultation; initially at the scoping stage with SEA statutory consultees; and later, when the full AoS Report was produced, to public consultation. These consultations provided opportunities for a wider audience to feed in concerns over environmental issues. Where appropriate, comments from consultees have been taken into account (see Section 4 of this Statement). A summary of the relevant processes and consultations is given in Section 2.2.

## 1.4 Purpose of This Post-Adoption Statement

1.4.1 Article 9(1) (b) of the SEA Directive<sup>5</sup> requires that when a plan or programme is adopted, it should be accompanied by a statement summarising:

- how environmental considerations have been integrated into the plan or programme;
- how the environmental report has been taken into account;
- how opinions expressed in response to public consultations on the draft plan or programme and the environmental report have been taken into account; and
- the reasons for choosing the plan or programme, as adopted, in the light of other reasonable alternatives dealt with.

1.4.2 This Statement is designed to fulfil these requirements. Together with the NPS for Hazardous Waste AoS Monitoring Strategy<sup>6</sup>, it also fulfils the requirement to make available details of the measures that are to be taken to monitor the significant environmental effects of implementation of the plan or programme.

1.4.3 In order to meet these requirements, this statement is formatted as follows:

- Section 2: How Environmental Considerations have been integrated into the NPS for Hazardous Waste
- Section 3: AoS Report, and how its recommendations have been taken into account in the designated NPS for Hazardous Waste
- Section 4: How comments received at consultation have been taken into account
- Section 5: Reasons for choosing the NPS for Hazardous Waste as designated in the light of reasonable alternatives.

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<sup>5</sup> See also regulation 16(3) of the Environmental Assessment of Plans and Programmes Regulations 2004.

<sup>6</sup> AoS Monitoring Strategy available at [www.gov.uk](http://www.gov.uk)

## 2. How Environmental considerations have been integrated into the National Policy Statement (NPS) for Hazardous Waste

### 2.1 Introduction

- 2.1.1 Defra aims to support a strong and sustainable green economy, resistant to climate change, while at the same time helping to enhance the environment and biodiversity to improve the quality of life.
- 2.1.2 These priorities are reflected in policy for the management of hazardous waste. The objectives of this policy include the following:
- Protection of human health and the environment;
  - Implementation of the waste hierarchy so that less hazardous waste is produced; it is used as a resource where possible and is only disposed of as a last resort;
  - Minimisation of greenhouse gas emissions.
- 2.1.3 Infrastructure for the management of hazardous waste is essential for public health and a clean environment. The NPS for Hazardous Waste sets out to deliver sustainable nationally significant infrastructure for the management of such waste. The new infrastructure identified in the NPS will help to move the management of the hazardous waste up the waste hierarchy so that more hazardous waste is recycled and recovered and less sent for disposal. This will reduce the need for new raw materials to be used in the manufacture of goods. Improved hazardous waste infrastructure has a part to play in a low carbon economy and the NPS looks to promote infrastructure that will be able to adapt to and help address climate change, including by providing for hazardous waste disposal in ways that reduce greenhouse gas emissions in the atmosphere.
- 2.1.4 Much of the NPS consists of a discussion of how applications for new hazardous waste infrastructure should be determined to ensure sustainability. Particular reference is given to environmental impacts and environmental considerations have been integral to the development of the NPS.
- 2.1.5 The AoS provides assurance that the NPS includes the high standards of environmental protection referred to in the SEA Directive, and the concern for sustainable development referred to in the Planning Act. Annex I of the SEA Directive requires that the assessment should include information on the “likely significant effects on the environment, including on issues such as biodiversity; population; human health; fauna, flora; soil; water; air; climatic factors; material assets; cultural heritage; and landscape”. In order to ensure that relevant aspects of the current state of the environment, and the likely evolution thereof, were addressed as part of the AoS, the initial scoping report included a review of existing plans, programmes, policies and strategies to help identify any relevant environmental protection objectives which needed to be taken into account during the preparation of the NPS. A series of “thematic topics” was identified. The themes are set out in table 3.3. of the main AoS Report, which shows how this links to Annex 1 to the SEA Directive. This was used to develop a series of objectives, and each objective was accompanied by a set of appraisal criteria, which outlined and defined key issues and questions to be asked in order for the

components of the objective to be achieved. This formed the AoS framework used to assess the sustainability of the NPS and compare alternatives. This framework is set out in Table 2.1 below.

**Table 2.1 AoS Framework**

AOS Key Issue and Objective	AOS Appraisal Criteria	SEA Topic
<b>ENVIRONMENTAL</b>		
<p><b>WASTE MANAGEMENT</b></p> <p><b>AoS 1: To encourage the reduction, reclamation, reuse and recycling of hazardous waste, and to promote environmentally sound management throughout facility life cycles</b></p>	<ul style="list-style-type: none"> <li>• How will the NPS encourage ways to support the Government’s aim and the Waste Framework Directive requirement to reduce waste?</li> <li>• How will the principles of the waste hierarchy be driven towards ‘prevention, reduction and reuse’ and enforced?</li> <li>• How is the infrastructure made sustainable throughout its lifecycle; for example environmental management, encouraging designing for decommissioning/ deconstructability, demountability and for legacy?</li> <li>• How are criteria used to develop the best overall environmental outcome for each hazardous waste stream?</li> <li>• How are future capacity requirements of different hazardous waste management facility types taken into account in the NPS?</li> </ul>	<p><b>Population, Human Health</b></p>
<p><b>RESOURCES AND RAW MATERIALS</b></p> <p><b>AoS 2: To specify and use environmentally and socially responsible materials and resources and to encourage resource efficiency</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS take into account the need to plan and design for facilities that maximise opportunities for reuse of energy generated, use of renewable energy and low-carbon technology?</li> <li>• How does the NPS encourage sustainable material selection e.g. embodied impacts easily cleanable and maintained, robust, durable, and reclaimable/recyclable?</li> <li>• Does the NPS identify opportunities to re-use hazardous waste/materials as an Energy Source (for example, Energy from Waste) in line with the Government target to generate 10% of UK electricity from renewable energy sources by 2010, and an aspiration of 20% by 2020?</li> </ul>	<p><b>Material Assets</b></p>



AOS Key Issue and Objective	AOS Appraisal Criteria	SEA Topic
<p><b>CLIMATE CHANGE ADAPTATION AND RESILIENCE</b></p> <p><b>AoS 3: To minimise the carbon and other greenhouse gas emissions associated with the design, construction and operation of hazardous waste management facilities and to maximise opportunities for climate change adaptation and resilience</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS ensure the types and the design of hazardous waste facilities take into account climate change adaptation and resilience?</li> <li>• How does the NPS contribute to the reduction of greenhouse emissions in line with the UK Climate Change Act 2008 to reduce greenhouse gas emissions by at least 80% by 2050, and to reduce CO2 emission by 26% by 2020, against a 1990 baseline<sup>7</sup> by: <ul style="list-style-type: none"> <li>– reducing the need for emission intensive facilities?</li> <li>– increasing the development of low carbon technology?</li> <li>– reducing non fossil fuel GHG emissions?</li> <li>– directing that greenhouse gas emissions associated with transportation of waste to and from different facility types are minimised?</li> </ul> </li> </ul>	<p><b>Climatic Factors</b></p>
<p><b>AIR QUALITY AND EMISSIONS</b></p> <p><b>AoS4: To optimise positive and minimise adverse effects on air quality</b></p>	<ul style="list-style-type: none"> <li>• Where possible, how does the NPS ensure the management and reduction of emissions to the internal and external atmosphere in accordance with limits and ceiling targets set out in the relevant legislation?</li> <li>• Does the NPS recognise the potential positive air quality impacts that may arise through the introduction of specialised handling and/or recovery facilities?</li> <li>• How does the NPS take into account issues of dispersed air quality on receiving environments, for example on Natura 2000 and (if not already accounted for) Ramsar sites?</li> </ul>	<p><b>Air, Climatic Factors</b></p>

<sup>7</sup> UK Climate Change Act 2008, Part 1 Carbon Target and Budgeting, Page 6

AOS Key Issue and Objective	AOS Appraisal Criteria	SEA Topic
<p><b>TRAFFIC AND TRANSPORT</b></p> <p><b>AoS5: To minimise the negative impacts of traffic and ensure that transport schemes associated with hazardous waste management facilities are environmentally sustainable and beneficial to the wider community.</b></p>	<ul style="list-style-type: none"> <li>• Where possible, how does the NPS encourage the siting of new hazardous waste management facilities close to waste arisings/ancillary infrastructure to reduce transport requirements?</li> <li>• How does the NPS promote active ('non-motorised') travel as part of the planning and design of hazardous waste management facilities?</li> <li>• How will the NPS ensure that traffic and transport will not adversely impact historic and/or environmental assets?</li> </ul>	<p><b>Population, Climatic Factors, Human Health</b></p>
<p><b>BIODIVERSITY, FLORA AND FAUNA</b></p> <p><b>AoS6: To protect and enhance biodiversity, flora and fauna</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS contribute to 'the protection, conservation and enhancement of all biodiversity, flora and fauna?'</li> <li>• How does the NPS recognise the need to protect the full breadth and detail of different statutorily protected habitats and species and undesignated habitats and species in England?</li> <li>• How does the NPS stipulate and favour the development of facilities that enhance or do not adversely impact habitats, species or biodiversity?</li> <li>• How does the NPS prevent the fragmentation of habitats and encourage ecological connectivity?</li> </ul>	<p><b>Biodiversity, Fauna and Flora</b></p>
<p><b>WATER QUALITY AND RESOURCES</b></p> <p><b>AoS 7: To optimise the opportunities for efficient water use, reuse and recycling and to ensure that natural water sources are protected, conserved and enhanced</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS encourage the maximisation of water efficiency and reduction of facility water consumption?</li> <li>• How does the NPS take into account the need to assess water resource availability?</li> <li>• How does the NPS ensure the protection of surface and groundwater quality, contributing to the Water Framework Directive objective to achieve at least good status in all inland and coastal waters by 2015?</li> <li>• How does the NPS recognise the need to protect and conserve the natural and healthy state of protected areas/</li> </ul>	

AOS Key Issue and Objective	AOS Appraisal Criteria	SEA Topic
<p><b>FLOOD RISK</b></p> <p><b>AoS 8: To minimise flood risks associated with the construction and operation of hazardous waste management facilities, and to ensure that facilities remain safe and operational throughout their lifetime by being able to respond to climate change.</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS encourage the siting of facilities away from areas of flood risk, including fluvial, coastal and surface water flooding?</li> <li>• How does the NPS take into account the need to make facilities safe and operational whilst not increasing the risk of flooding elsewhere?</li> <li>• How does the NPS drive the reduction of flood risk during planning and design including the need for risk assessment and encouraging the use of SUDS?</li> </ul>	<p><b>Climatic Factors, Water</b></p>
<p><b>SOILS AND GEODIVERSITY</b></p> <p><b>AoS 9: To remediate, protect and enhance the natural and healthy state of soils and geodiversity</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS take into account the need to protect soil function and processes?</li> <li>• How does the NPS take into account the need to conserve geodiversity?</li> </ul>	<p><b>Soil</b></p>
<p><b>COASTAL CHANGE AND THE MARINE ENVIRONMENT</b></p> <p><b>AoS 10: To take account of coastal processes and protect the natural and historic marine environment</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS avoid adverse impact on coastal processes including coastal erosion and change?</li> <li>• How does the NPS contribute to the protection of the natural and historic marine environment?</li> </ul>	<p><b>Climatic Factors, Water, Biodiversity; Fauna; Flora; Cultural heritage including architectural and archaeological heritage</b></p>

AOS Key Issue and Objective	AOS Appraisal Criteria	SEA Topic
<p><b>LANDSCAPE</b></p> <p><b>AoS 11: To minimise adverse impacts on protected and other important landscapes</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS recognise the need to protect designated and other significant/important landscapes, including their historic and cultural dimension?</li> <li>• How does the NPS encourage the integration of hazardous waste management facilities into the landscape through sensitive design and mitigate the visual impacts on the local community?</li> </ul>	<p><b>Landscape, Cultural heritage including architectural and archaeological heritage</b></p>
<p><b>HISTORIC ENVIRONMENT</b></p> <p><b>AoS 12: To protect and conserve heritage assets in a manner appropriate and proportionate to their significance</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS take account of the need to protect and conserve all heritage assets and their settings (designated and undesignated), including terrestrial and marine assets?</li> <li>• How does the NPS recognise that hazardous waste management facilities (and associated infrastructure) must not detract or impinge upon existing cultural capital?</li> <li>• How does the NPS avoid adverse impact on local tourism and willingness to invest in the historic environment?</li> </ul>	<p><b>Cultural heritage including architectural and archaeological heritage, Landscape,</b></p>
<b>SOCIAL</b>		
<p><b>POPULATION</b></p> <p><b>AoS13: To use population demographics to ensure that hazardous waste management facilities optimise benefits to, and encourage the development of sustainable communities</b></p>	<ul style="list-style-type: none"> <li>• How are demographic trends taken into account by the NPS, to ensure that hazardous waste management facilities are located to avoid adverse effects on communities e.g. carrying capacity of communities?</li> <li>• How does the NPS impact on social cohesion and community severance?</li> <li>• How will the NPS affect local population demographics, for example through migration?</li> </ul>	<p><b>Population</b></p>

AOS Key Issue and Objective	AOS Appraisal Criteria	SEA Topic
<p><b>HEALTH AND WELL-BEING</b></p> <p><b>AoS14: To reduce health inequalities and to improve the health and well-being of both operatives and wider communities during the construction, operation and legacy of waste management facilities</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS take into account legacy issues (such as long term disposal) with regards community health?</li> <li>• How does the NPS promote the specification and use of healthy materials during construction and operation?</li> <li>• How does the NPS identify, monitor and reduce the potential impacts on long-term health trends of operating (and decommissioning and legacy of) a hazardous waste management facility?</li> <li>• How does the NPS address public concerns/ fears for e.g. nuisance including smell and pests?</li> <li>• How does the NPS support construction, operation and legacy that improve health and well being and reduce health inequalities?</li> </ul>	<p><b>Human Health, Population</b></p>
<p><b>AoS 15: To involve, communicate and consult effectively with diverse stakeholders and communities, and ensure that the principles of equality and inclusivity are upheld</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS comply with equalities legislation, in that no section of the population is likely to be disproportionately affected by waste management options?</li> <li>• Does the NPS prevent community fragmentation whilst encouraging greater social cohesion?</li> <li>• Does the NPS take into account the protection of environmental equity?</li> </ul>	<p><b>Equality</b></p>
<p><b>NOISE</b></p> <p><b>AoS 16: To minimise the adverse impacts of noise on both the environment and society.</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS recognise the importance of effective control measures for noise as part of the construction and operation of hazardous waste management facilities, including surface, subsurface and underwater noise?</li> <li>• How does the NPS highlight the importance of minimising the potential impacts of noise on the environment, including biodiversity and communities/individuals?</li> </ul>	<p><b>Population</b></p>

AOS Key Issue and Objective	AOS Appraisal Criteria	SEA Topic
<p><b>SPATIAL PLANNING AND LAND USE</b></p> <p><b>AoS 17: To ensure that hazardous waste management facilities do not adversely impact or detract from existing or proposed land uses or access to green space.</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS ensure that a sustainable approach to spatial development is encouraged with regard to hazardous waste facilities, including future requirements?</li> <li>• How does the NPS recognise and encourage the development of brownfield sites?</li> <li>• How does the NPS avoid severance of access to green spaces?</li> </ul>	<p><b>Population</b></p>
<p><b>MILITARY AND CIVIL AVIATION</b></p> <p><b>AoS 18: To protect and conserve the integrity and security of aviation and military material and infrastructural assets.</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS encourage management options that avoid impact upon the operation or quality of civil and military aviation operations, materials or assets?</li> </ul>	<p><b>Material Assets</b></p>
<p><b>ECONOMY</b></p> <p><b>AoS 19: To ensure that hazardous waste management facilities benefit the local, regional and/or national economy and that planning, design, construction, operation and legacy phases are subject to whole-life costing</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS encourage the beneficial co-location of existing and proposed facilities/ infrastructure?</li> <li>• How does the NPS contribute to existing regional or local economic strategy requirements?</li> <li>• How does the NPS encourage investment in new and/or innovative technologies?</li> <li>• How does the NPS encourage contributions to developing economic sectors?</li> </ul>	<p><b>Material Assets, Population</b></p>

AOS Key Issue and Objective	AOS Appraisal Criteria	SEA Topic
<p><b>EMPLOYMENT AND BUSINESS</b></p> <p><b>AoS 20: To support existing and create new employment and business opportunities locally, regionally and nationally</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS take into account the need to drive innovation in the development of a hazardous waste facility?</li> <li>• How does the NPS encourage or facilitate potential local, regional and national employment opportunities as a result of facility development?</li> </ul>	<p><b>Material Assets, Population</b></p>
<p><b>EDUCATION AND TRAINING</b></p> <p><b>AoS 21: To educate, train and address skills, shortages or gaps in the planning, design, construction and operation of hazardous waste management facilities</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS provide for education and training during planning, design, construction and operational phases of hazardous waste management facilities?</li> <li>• How does the NPS maximise the potential for research and development?</li> <li>• How does the NPS encourage the supply of skills, including higher level skills, for hazardous waste management?</li> </ul>	<p><b>Material Assets, Population</b></p>

## 2.2 Engagement with Stakeholders

- 2.2.1 Consultation has been integral to the AoS process, as engagement with stakeholders has helped to identify and refine relevant environmental issues.
- 2.2.2 The formal statutory consultation exercise was supported throughout by informal engagement across government departments and with key stakeholder specialists and agencies.

**Table 2.2 – Summary of AoS Development Processes and Consultations**

AoS Development and Consultation	Purpose
Preparation of and consultation on AoS Scoping Report (Consultation late 2009/ completion of Scoping Report early 2010).	To set the policy context and objectives, establishing the baseline and deciding on the scope in consultation with statutory consultees.
Preparation of Appraisal of Sustainability Report (Completed July 2011)	To consider the alternatives and assess the effect of the NPS for Hazardous Waste.
Preparation of the draft NPS (Completed July 2011)	To set out the draft framework for planning decisions on nationally significant hazardous waste infrastructure. Includes appropriate recommendations from AoS process.
Consultation on Appraisal of Sustainability Report (July-October 2011)	To identify whether the AoS covered all likely sustainability effects of the NPS; identified all reasonable alternatives; adequately described impacts and cumulative impacts and identified suitable mitigation; and made suitable proposals for monitoring.
Consultation on draft NPS (July –October 2011)	To identify whether the draft NPS was fit for purpose i.e. provided a suitable framework for the IPC to make decisions on applications for the development of major hazardous waste infrastructure.
Preparation of final NPS	To take on board, as appropriate, comments made at consultation.
Designation of final NPS	To formally publish the agreed framework for decisions on nationally significant infrastructure for hazardous waste.
AoS Post Adoption Statement	Following consultation on the draft NPS for Hazardous Waste and the AoS Report, this final AoS Statement sets out how the consultation and the appraisal have been taken into account in deciding the final NPS to be designated.



# **3. The AOS report and how its recommendations have been taken into account in the Designated National Policy Statement for Hazardous Waste**

## **3.1 Introduction**

- 3.1.1 This section sets out how the recommendations contained on the Appraisal of Sustainability (AoS) are taken into account in the designated NPS for Hazardous Waste.
- 3.1.2 In addition to the appraisal of the environmental considerations mentioned in section 2, the scope of the AoS includes social and economic effects and climate change as required by the Planning Act 2008.
- 3.1.3 The aim of the AoS was to identify, describe and evaluate the likely environmental, social and economic effects of implementing the policy set out in the NPS for Hazardous Waste.

## **3.2 The recommendations and how these have been taken into account**

- 3.2.1 The AoS Report and the NPS for Hazardous Waste were developed alongside each other in an iterative way. The appraisal process resulted in a number of suggestions and recommendations by the AoS team that were incorporated into the NPS at an early stage. The final AoS Report issued in the consultation package made an assessment of what was then the most up to date version of the NPS, only highlighting any remaining recommendations or mitigation. The results of this final assessment are set out in tables below. The first table (3.2.1) looks at the recommendations made to help achieve the individual AoS objectives, while the second (3.2.2) looks at the recommendations made in respect of each of the facility types identified in the NPS.

**Table 3.2.1 Recommendations by AoS objective and how these have been taken into account**

AOS Summary of Recommendations	How this has been addressed in the NPS
<p>AOS1 – <i>To encourage the reduction, reclamation, reuse and recycling of hazardous waste, and to promote environmentally sound management throughout facility life cycles</i></p> <ul style="list-style-type: none"> <li>No further mitigation or enhancement measures are identified in AOS Report.</li> </ul>	
<p>AOS2 – <i>To specify and use environmentally and socially responsible materials and resources and to encourage resource efficiency</i></p> <ul style="list-style-type: none"> <li>No further mitigation or enhancement measures are identified in AOS Report.</li> </ul>	
<p>AOS3 – <i>To minimise the carbon and other greenhouse gas emissions associated with the design, construction and operation of hazardous waste management facilities and to maximise opportunities for climate change adaptation and resilience</i></p> <ul style="list-style-type: none"> <li>No further mitigation or enhancement measures are identified in AOS Report.</li> </ul>	
<p>AOS 4 – <i>To optimise positive and minimise adverse impacts on air quality</i></p> <ul style="list-style-type: none"> <li>By way of further mitigation, the AOS Report proposes that section 4.13 of the NPS is amended to state that the most sustainable option should include seeking to reduce impacts on the environment as a whole and emissions in particular.</li> </ul>	<ul style="list-style-type: none"> <li>This recommendation was not taken forward as it was considered that the criteria already in the NPS should ensure that impacts on the environment, including emissions, are minimised.</li> </ul>

AOS Summary of Recommendations	How this has been addressed in the NPS
<p>By way of further enhancement the AOS Report proposes that:</p> <ul style="list-style-type: none"> <li>• The NPS could be strengthened by including a cross-reference to the section on Air Emissions (5.2) at Section 4.3.</li> <li>• The NPS should include further text to paragraph 4.6.5 stating that best available techniques should also seek to reduce particular impacts upon the environment as a whole and emissions in particular.</li> <li>• The NPS should include an additional paragraph to highlight in general terms, the potential positive air quality impacts that may arise through the introduction of specialist handling and/or recovery facilities with cross references to section 4.6.</li> </ul>	<ul style="list-style-type: none"> <li>• Such a reference is now therefore included in section 4.3 of the NPS.</li> <li>• This recommendation was not taken forward. It is outside the scope of this NPS to say what best available techniques should or should not do.</li> <li>• The AoS identifies these potential positive impacts. We did not consider it necessary to highlight this in the NPS.</li> </ul>
<p><i>AOS 5 – To minimise the negative impacts of traffic and ensure that transport schemes associated with hazardous waste management facilities are environmentally sustainable and beneficial to the wider community</i></p> <ul style="list-style-type: none"> <li>• No further mitigation or enhancement measures identified in AOS Report.</li> </ul>	
<p><i>AOS 6 – To protect and enhance biodiversity, flora and fauna</i></p> <ul style="list-style-type: none"> <li>• No further mitigation identified in AOS Report.</li> </ul> <p>By way of further enhancement the AOS Report proposes that:</p> <ul style="list-style-type: none"> <li>• It is considered that section 5.2 would benefit from a reference to HRA and the potential need for Screening/Appropriate Assessment of proposals where there could be potential issues in respect of emissions on Natura 2000 sites.</li> <li>• Section 5.3 could benefit from a reference to section 4.3.</li> </ul>	<ul style="list-style-type: none"> <li>• Section 5.2 makes it clear that emissions may have impacts on Natura 2000 sites.</li> <li>• A reference to section 4.3 has been added to section 5.3.</li> </ul>

AOS Summary of Recommendations	How this has been addressed in the NPS
<p>AOS 7 – <i>To optimise the opportunities for efficient water use, reuse and recycling and to ensure that natural water resources are protected, conserved and enhanced</i></p> <ul style="list-style-type: none"> <li>No further mitigation or enhancement measures identified in AOS Report.</li> </ul>	
<p>AOS 8 – <i>To minimise flood risks associated with the construction and operation of hazardous waste management facilities, and to ensure that facilities remain safe and operational throughout their lifetime by being able to respond to climate change</i></p> <ul style="list-style-type: none"> <li>No further mitigation proposed in AOS Report.</li> </ul> <p>By way of further enhancement measures the AoS Report proposes that:</p> <ul style="list-style-type: none"> <li>Reference is made to the ‘sequential test’ in section 5.7 when the first reference is made to site selection/appropriateness of ‘more vulnerable’ uses in the different zones, with cross-reference to later paragraphs in this section where more detailed guidance is offered;</li> </ul>	<ul style="list-style-type: none"> <li>A reference has been added.</li> </ul>
<p>AOS 9 – <i>To remediate, protect and enhance the natural and healthy state of soils and geodiversity</i></p> <ul style="list-style-type: none"> <li>No further mitigation or enhancement measures identified in AOS Report.</li> </ul>	
<p>AOS 10 – <i>To take account of coastal processes and protect the natural and historic marine environment</i></p> <ul style="list-style-type: none"> <li>No further mitigation proposed in AOS Report.</li> <li>It was considered that a cross-reference in section 4.6 to the detailed advice offered in section 5.5 (Coastal Change) would be useful at this point.</li> </ul>	<ul style="list-style-type: none"> <li>A reference has been added.</li> </ul>

AOS Summary of Recommendations	How this has been addressed in the NPS
<p>AOS 11 – <i>To minimise adverse impacts on protected and other important landscapes</i></p> <ul style="list-style-type: none"> <li>No further mitigation proposed in AOS Report.</li> <li>The NPS could be enhanced at Section 5.9 by specific mention of the need to balance stack heights (where relevant) for control of air emissions against the potential adverse visual and landscape elements.</li> </ul>	<ul style="list-style-type: none"> <li>This recommendation was not taken forward. The criteria set out in Section 5.9 are already sufficient to ensure appropriate assessment of visual and landscape elements.</li> </ul>
<p>AOS 12 – <i>To protect and conserve heritage assets in a manner appropriate and proportionate to their significance</i></p> <ul style="list-style-type: none"> <li>No further mitigation or enhancement measures identified in AOS Report.</li> </ul>	
<p>AOS 13 – <i>To use population demographics to ensure that hazardous waste management facilities optimise benefits to and encourage the development of sustainable communities</i></p> <ul style="list-style-type: none"> <li>No further mitigation proposed in AOS Report.</li> <li>By way of enhancement the AOS proposes that, the NPS should include a reference at Section 5.12 to ensure that where such impacts may be relevant, these should be considered by the Applicant in any application.</li> </ul>	<ul style="list-style-type: none"> <li>This recommendation was not taken forward. The requirements already in section 5.12 for applicants are thought to be sufficient.</li> </ul>
<p>AOS 14 – <i>To reduce health inequalities and to improve the health and well-being of both operatives and wider communities during the construction, operation and legacy of hazardous waste management facilities</i></p> <p>By way of mitigation, the AOS Report proposes that:</p> <ul style="list-style-type: none"> <li>Section 4.10 should be strengthened to contain a policy objective to avoid such impacts if possible, rather than just assess their potential implications, to accord more with the principles of this AoS objective.</li> <li>No enhancement measures were proposed.</li> </ul>	<ul style="list-style-type: none"> <li>Section 4.10 now requires that applicants should avoid indirect health impacts where possible. However, no further differences between the criteria here and those in other NPSs were thought to be justified.</li> </ul>

AOS Summary of Recommendations	How this has been addressed in the NPS
<p>AOS 15 – <i>To involve, communicate and consult effectively with diverse stakeholders and communities and ensure that the principles of equality and inclusivity are upheld</i></p> <ul style="list-style-type: none"> <li>• No further mitigation or enhancement measures identified in AOS Report.</li> </ul>	
<p>AOS 16 – <i>To minimise the adverse impacts of noise on both the environment and society</i></p> <ul style="list-style-type: none"> <li>• There is no linkage between the noise assessment and the ES, unlike other sections where this relationship is made clear. Suggest a reference to the ES is included at the outset of ‘Applicant’s Assessment’ in section 5.11 for consistency.</li> <li>• Section 5.11 of the NPS should make specific reference to sub-surface or underwater noise, as set out in the AoS criterion.</li> <li>• No enhancement measures were proposed.</li> </ul>	<ul style="list-style-type: none"> <li>• A reference has been added.</li> <li>• A reference has been added.</li> </ul>
<p>AOS 17 – <i>To ensure that hazardous waste facilities do not adversely impact or detract from existing or proposed land uses or access to green space</i></p> <p>By way of mitigation the AOS Report proposed that:</p> <ul style="list-style-type: none"> <li>• Paragraph 4.22.12 – The Local Planning Authority should be added to the list of those whose views the IPC should have regard</li> <li>• No enhancement measures were proposed</li> </ul>	<ul style="list-style-type: none"> <li>• The Planning Act requires that the views of the Local Planning Authorities are taken into account.</li> </ul>
<p>AOS 18 – <i>To protect and conserve the integrity and security of aviation and military material and infrastructural assets</i></p> <ul style="list-style-type: none"> <li>• No further mitigation or enhancement measures identified in AOS Report.</li> </ul>	
<p>AOS 19 – <i>To ensure that hazardous waste management facilities benefit the local, regional and/or national economy and that the planning, design, construction, operation and legacy phases are subject to whole-life costing</i></p> <ul style="list-style-type: none"> <li>• No further mitigation or enhancement measures identified in AOS Report.</li> </ul>	

AOS Summary of Recommendations	How this has been addressed in the NPS
<p>AOS 20 – <i>To support existing and create new employment and business opportunities locally, regionally and nationally</i></p> <ul style="list-style-type: none"> <li>• No further mitigation or enhancement measures identified in AOS Report.</li> </ul>	
<p>AOS 21 – <i>To educate, train and address skills shortages or gaps in the planning, design, construction and operation of hazardous waste management facilities</i></p> <ul style="list-style-type: none"> <li>• No further mitigation or enhancement measures identified in AOS Report.</li> </ul>	

**Table 3.2.2 Recommendations by facility type and how these have been taken into account**

Facility Type	Mitigation/Enhancement Proposed	How this was taken into Account in the NPS
<p><b>All facility types</b></p>	<ul style="list-style-type: none"> <li>The NPS should require that the Applicant demonstrates that consideration has been given to energy sources for any new facility, and that renewable and low carbon sources have been demonstrated to be incorporated into the design wherever possible.</li> </ul>	<ul style="list-style-type: none"> <li>Criteria included in paragraph 4.13.2 of the NPS.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should require applicants to reduce transportation requirements wherever possible.</li> </ul>	<ul style="list-style-type: none"> <li>These facilities will be nationally significant and it is likely to be unavoidable that waste is moved some distance. However, section 3.15 contains sufficient criteria to ensure that transport impacts are sufficiently assessed.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should require that the Applicant demonstrates that the most sustainable option for each waste stream is demonstrated</li> </ul>	<ul style="list-style-type: none"> <li>Paragraph 4.13.1 of the NPS requires applicants to demonstrate that the proposed facility will manage hazardous waste at the most appropriate point on the waste hierarchy.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should require that the Applicant demonstrates measures to reduce site footprint, where this may have an adverse effect on soils and geodiversity (and other environmental objectives).</li> </ul>	<ul style="list-style-type: none"> <li>References to footprint have been added to the NPS where particularly relevant e.g.in paragraph 4.20.2 for landfill facilities</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should encourage Applicants to locate new facilities away from coastal areas at risk, except where existing facilities may already be located at such sites and there is a clear benefit for co-location</li> </ul>	<ul style="list-style-type: none"> <li>The generic impacts text at section 5.5 (coastal change) require that impacts on coastal processes and geomorphology are assessed and taken into account in decision making. For some types of facility, such as ship recycling and oil regeneration facilities, a coastal location may be an advantage.</li> </ul>



Facility Type	Mitigation/Enhancement Proposed	How this was taken into Account in the NPS
	<ul style="list-style-type: none"> <li>The NPS should require that the Applicant demonstrates no adverse effect on the historic marine environment.</li> <li>The NPS states that for all infrastructure types, consideration must be given to impacts on the historic environment. It is considered that this could be strengthened by requiring that the marine as well as terrestrial cultural heritage should be protected.</li> </ul>	<ul style="list-style-type: none"> <li>Section 5.8 (Historic Environment) already takes account of the marine heritage e.g. protected shipwrecks.</li> </ul>
	<ul style="list-style-type: none"> <li>The requirement for an assessment of socio-economic impacts is set out in the generic section of Part 4: Section 4.32 however does not specifically recommend development away from residential properties. It is recommended that text is made more generic for all types of new development, with the impacts being assessed through the EIA process.</li> </ul>	<ul style="list-style-type: none"> <li>The generic text is thought to be sufficient to allow potential impacts for residential properties to be taken into account in decisions. There seems little justification for a difference in approach from other NPS regimes.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should encourage Applicants to develop on brownfield land, where appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>The generic text at section 5.10 encourages applicants to use poorer quality land.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should require the applicant to demonstrate how employment opportunities have been maximised</li> </ul>	<ul style="list-style-type: none"> <li>The generic impacts text at section 5.12 requires the applicant to provide sufficient information on socio-economic impacts.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should require that Applicants have demonstrated consideration of the cumulative effect of co-located facilities have been taken into account in any application for new development.</li> </ul>	<ul style="list-style-type: none"> <li>Paragraph 4.13.3 of the NPS requires applicants to provide details of the benefits and cumulative impacts of co-location.</li> </ul>

Facility Type	Mitigation/Enhancement Proposed	How this was taken into Account in the NPS
<b>Waste electrical and electronic equipment plants</b>	<ul style="list-style-type: none"> <li>The NPS should require that a buffer-zone around European sites is applied, appropriate to the impacts likely to arise from the infrastructure identified. This will differ on a case by case basis.</li> </ul>	<ul style="list-style-type: none"> <li>The criteria set out in section 5.3 and the Habitats Regulations Assessment requirements should ensure sufficient protection for European Sites.</li> </ul>
<b>Oil regeneration plant</b>	<ul style="list-style-type: none"> <li>The NPS already covers the requirement to consider locating new facilities alongside existing oil refineries; the NPS should require that the IPC favour co-location, where a clear benefit in terms of reducing transportation impacts could be shown.</li> </ul>	<ul style="list-style-type: none"> <li>This recommendation has not been taken forward. The decision maker will need to take account of many factors in considering whether co-location is an advantage, not just transport.</li> </ul>
	<ul style="list-style-type: none"> <li>As there are no specific vocational requirements associated with this type of facility, the NPS should require that any new infrastructure avoids development on the floodplain unless a collocated existing oil refinery is within a flood plain. Where this is the case, the NPS should require that any such facilities are sufficiently flood proofed to avoid impacts associated with flooding and consequent contaminated run-off.</li> </ul>	<ul style="list-style-type: none"> <li>Paragraph 4.15.3 states that oil is a particular risk to soil and groundwater. The generic text in section 5.7 on Flood Risk should provide sufficient safeguard.</li> </ul>
<b>Treatment plant for air pollution control residues</b>	<ul style="list-style-type: none"> <li>No specific recommendations.</li> </ul>	
<b>Thermal Desorption</b>	<ul style="list-style-type: none"> <li>The NPS should require that the Applicant demonstrates consideration of the siting of new facilities to complement the location of existing facilities e.g. to promote distribution either regionally/to reflect arisings.</li> </ul>	<ul style="list-style-type: none"> <li>Paragraph 4.17 of the NPS requires that applicants should take account of the locations at which soil and sludge waste arises in selecting a site for the proposed facility.</li> </ul>

Facility Type	Mitigation/Enhancement Proposed	How this was taken into Account in the NPS
<b>Bioremediation/ soil washing to treat contaminated soil diverted from landfill</b>	<ul style="list-style-type: none"> <li>A cross-reference to thermal desorption should be made in this section.</li> </ul>	<ul style="list-style-type: none"> <li>Thermal desorption is one very specific technique. The NPS now refers to “facilities to treat oily wastes and oily sludges” rather than to thermal desorption. A specific reference to “thermal desorption” in this section is not therefore considered appropriate.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should require that the Applicant demonstrates that facilities are designed to minimise risks associated with the handling of contaminated soils, for example for surface water run-off the environmental risks can be easily controlled through the use of impermeable surfaces, bunds and drainage control measures.</li> </ul>	<ul style="list-style-type: none"> <li>The generic impacts requirements set out in Section 5 and the environmental permitting process should provide sufficient protection.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should require that the Applicant demonstrates that consideration has been given to preventing the leaching of contaminants into water and ground water sources following dust blown deposition.</li> </ul>	<ul style="list-style-type: none"> <li>The generic impacts requirements set out in Section 5 and the environmental permitting process should provide sufficient protection.</li> </ul>
<b>Ship recycling facilities</b>	<ul style="list-style-type: none"> <li>The NPS should state that individual waste types removed from ships will need to be addressed separately according with the appropriate management options, as set out in the Strategy for Hazardous Waste Management in England and/or the NPS.</li> </ul>	<ul style="list-style-type: none"> <li>The question of the management of wastes removed from ships is outside the scope of the NPS and would be considered as part of the environmental permitting process.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should require that the IPC gives favourable consideration to applications within existing ports wherever possible or new ports in association with those identified in the Ports NPS</li> </ul>	<ul style="list-style-type: none"> <li>Paragraph 4.19 of the NPS states that a location at a port would be an advantage.</li> </ul>

Facility Type	Mitigation/Enhancement Proposed	How this was taken into Account in the NPS
<b>Hazardous Waste Landfill</b>	<ul style="list-style-type: none"> <li>The NPS should require that an exclusion zone around new landfills is identified, commensurate with the potential impacts associated with the size and type of landfill. As it is difficult to apply standard exclusion criteria, the NPS should require that this is assessed on a case-by-case basis as part of an EIA.</li> </ul>	<ul style="list-style-type: none"> <li>The criteria set out in section 5.3 and the Habitats Regulations Assessment requirements should ensure sufficient protection for European Sites.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPS should set out a requirement for the Applicant to consider post-use rehabilitation within an application for a new landfill site.</li> </ul>	<ul style="list-style-type: none"> <li>Paragraph 4.20.2 states that applicants must include information about how it is envisaged the site will be restored after the landfill has closed to enable use for other purposes.</li> </ul>
	<ul style="list-style-type: none"> <li>The NPs should specifically require that the IPC safeguard green spaces in relation to the development of new landfills.</li> </ul>	<ul style="list-style-type: none"> <li>The generic text at section 5.10 encourages applicants to use poorer quality land. Paragraph 4.20.2 specifically requires applicants to demonstrate that their design will minimise the facility footprint.</li> </ul>

## 4. How opinions expressed during Public Consultation have been taken into account

### 4.1 Introduction

- 4.1 The consultation on the draft NPS for Hazardous Waste was undertaken between 14 July and 20 October 2011. A Government Response to that consultation has been issued, which identifies the main concerns and responds to them.
- 4.2 Following consideration of the responses to this consultation and the recommendations of the EFRA Committee, the Government made changes to the NPS and AoS.
- 4.3 The comments received and the responses from Defra to the consultation on the draft NPS and AoS are detailed in the Government Response to consultation on the NPS. Some comments made in respect of the AoS have resulted in changes to the NPS. These comments and the action taken are summarised in the Government Response to consultation. However, some comments were more specifically about the assessments in the AoS Report and these are summarised in this Statement.
- 4.4 We raised some specific questions on the AoS Report in consultation. These questions and consultee comments relevant to each and our response are summarised in the table below:

**Consultation Question – Do you believe that the appraisal identifies the likely significant sustainability effects associated with the draft NPS for Hazardous Waste? If not, what effects do you feel are not correctly identified and why?**

#### **Air Quality**

The AoS Report took account of greenhouse emissions in the assessment of air quality impacts. It was suggested this contradicted the baseline, which considered CO<sub>2</sub> and greenhouse gases under “climate change” rather than “air quality”?

#### **Response**

The SEA Directive requires coverage of effects in air quality and climatic factors. They can legitimately be considered together as any significant effects in either category are identified or ruled out. We feel that the assessments in the AoS Report do this.

## Biodiversity

Further clarification was requested on how the AoS had addressed the “lag” effects which occur when hazardous substances accumulate in some habitats and species.

### Response

The AoS Report acknowledged that the effects of a plan or programme might change over time. The temporal effects of the NPS have been considered as appropriate. The Monitoring Strategy will run over five years and then be reviewed. Effects within five years will be covered. The review of the Strategy will need to consider how to monitor longer term effects.

## Water

The positive effect on AoS objective 7 was queried, given that it is said that the infrastructure covered by the NPS might mean increased water use. Similarly, the statement in table 7.3 that the development of large facilities may lead to a slightly smaller water demand on the basis that water demand is not necessarily related to the size of the facility was queried.

### Response

Some facilities may involve greater water use. However, the AoS concludes that the guidance provided in the NPS is sufficient to ensure that AoS objective 7 is met and a positive conclusion is therefore reasonable. We accept that water demand is not necessarily related to the size of the facility. However, table 7.3 of the AoS says that the development of larger facilities *may* lead to a slightly smaller water demand rather than that it *will*. We remain of the view that this is accurate.

## Infrastructure type

We were asked why the AoS Report in places compares one type of facility against another.

### Response

In considering the impacts of a particular type of facility it is important to acknowledge that this should be seen in the context of the alternative impacts that might have resulted from treating the waste at a different type of facility. So, for example, the impacts of bioremediation/soil washing need to be considered in the context of the impacts that would have resulted from the landfill of the soil.

## **Do you believe that the appraisal identifies the reasonable alternatives to the policy contained within the draft NPS for Hazardous Waste? If not, what others should have been considered and why?**

### **“Business as Usual”**

We were asked why our baseline is “business as usual” rather than “no development”, which was used as the baseline for some other NPS regimes; it was suggested that the case for the NPS as opposed to “Business as usual” could be strengthened because the NPS approach would offer greater potential to assess cumulative impacts.

### **Response**

In the absence of the NPS for Hazardous Waste, there would still be development. Developers could apply for development consent under the Town and Country Planning regime, but the strategic steer offered to applicants and decision makers in the NPS would not be available. We believe that paragraph 7.4.3 of the AoS Report adequately defines “business as usual”. We acknowledge that the case for the NPS as opposed to “Business as usual” could be strengthened because the NPS approach would offer greater potential to assess cumulative impacts.

### **Relying on a Larger Number of Small Facilities**

The conclusion in the AoS that the development of a smaller number of larger facilities might lead to the slightly smaller cumulative use of resources than the development of a larger number of smaller facilities was queried.

### **Response**

While it is true that resource demand will be affected by factors over and above facility size, the AoS Report says simply that it “*may*” lead to a smaller resource demand and we remain of the view that this is accurate.

### **Identification of Suitable and Unsuitable Locations for Infrastructure**

We were asked why the alternative of a locationally specific NPS was disregarded on the grounds of high cost when it performed well when assessed against environmental objectives.

### **Response**

The SEA Directive requires the consideration of reasonable alternative and an explanation why those alternatives have been selected. High cost is a legitimate reason for deciding that a possible course is not a reasonable alternative. The AoS concluded that both the alternative

of identifying suitable/unsuitable locations and the alternative of not identifying locations are considered, on balance, positive effects. The measures set out in the NPS and the fact that any potential impacts would be addressed at the planning and consents (project) stage will reduce adverse impacts and maximise potential environmental, social and economic opportunities.

### **Central Planning v Market-led Approach**

It was suggested that a market-led approach, even with the proposed mitigation, would not reduce inherent risks because it would not allow for the strategic consideration of cumulative effects to the extent that could be achieved through a central planning approach. It was also suggested that a market-led approach would lead to a policy vacuum with affected communities knowing little until the application is sent to the decision maker.

#### **Response**

We consider that the NPS makes sufficient provision for the consideration of cumulative effects. A central planning approach would not necessarily achieve this to any greater degree and also has other disadvantages as set out in the AoS such as not allowing for innovation within the hazardous waste industry to contribute to the achievement of these objectives, for example through technological advances. Local communities should be aware of proposals at an early stage as the Planning Act contains requirements for local consultation, which include duty to consult and produce a Report of that consultation. The decision maker will not accept the application until it is assured that these requirements have been met.

### **Government Prescription of Technologies**

It was suggested that the implications and potential effects of technology types and their alternatives should have been assessed to identify best options.

#### **Response**

New technology for hazardous waste is being developed all the time. Adopting an approach of favouring particular types of technology would mean that we could not allow for new and potentially “better” new technologies to be used for NSIPs until the NPS was reviewed.

#### **Other**

A suggestion was made that the AoS should have assessed the impact of altering the thresholds at which developments are identified as “nationally significant”.

One consultee felt the AoS did not sufficiently explore the merit of other policy options as they relate to hazardous waste.



## **Response**

The thresholds are set by the Planning Act rather than in the NPS, so it would not have been appropriate to assess them in the AoS Report. Similarly, policy for Hazardous Waste was already set in the Strategy for Hazardous Waste Management in England. The AoS looks at alternative ways of providing the facilities needed to implement that policy.

## **Do you believe that any further measures are necessary to prevent, reduce or offset likely significant effects of the draft NPS for Hazardous Waste? If so, what further mitigation do you think should have been covered in the AoS?**

### **General**

We were asked whether the term “mitigation” includes. There were also some specific suggestions on possible additional mitigation measures.

## **Response**

We can confirm that the “mitigation” included in the NPS includes avoidance, reduction and cancellation measures as appropriate. Where appropriate, specific suggestions for additional mitigation have been taken forward as amendments to the NPS and are reflected in the Government response to consultation.

### **Emissions**

It was suggested that clarification be given as to whether it is expected mitigation measures through design will offset and more than compensate for anticipated emissions during construction and operation.

## **Response**

The exact impact of the mitigation will vary according to the exact nature of the facility. Mitigation measures through design would be expected to help compensate for anticipated emissions during construction and operation. Design is just one of several factors identified in the NPS to help militate against anticipated emissions. The AoS identifies that the NPS has the potential for negative effects in air quality due to inherent uncertainties in types of facility, location and method of construction, but that the range of mitigation measures have the potential for an overall positive cumulative effect.

## **Biodiversity**

It was suggested that the AoS could have done more to consider the implications of air pollutants on sensitive receiving environments taking into account that the nature and magnitude of effects will be dependent on the sensitivity of the receiving environment and not necessarily on proximity.

### **Response**

We accept that the nature and magnitude of effects will depend on the sensitivity of the receiving environment and will not be exclusively related to proximity. However, the conditions required by the NPS for development to be consented would militate against these effects and does not change the assessment made in the AoS.

## **Do you believe that the AoS correctly describes the cumulative impacts that may occur? If not, what is missing?**

### **General**

We were asked why section 8.10 does not assess the cumulative impacts of this NPS with all the other relevant NPSs; why potential impacts in the Devolved Administrations were not addressed in the AoS; whether the AoS took account of the fact that impacts may change over time; and why there were inconsistencies in some of the cumulative effects noted, with some assessments giving a minor positive conclusion on the basis of the regulatory measures in place and others giving uncertain conclusions despite the existence of regulatory measures.

### **Response**

We have amended table 8.4 so that all relevant NPSs are taken into account. (See Annex 5). In terms of cross border impacts, since the NPS for Hazardous Waste is not locationally specific and the AoS looked at generic impacts, these would also be relevant where facilities are located sufficiently close to a Devolved Administration to have an impact. The NPS will allow therefore cross border impacts to be taken account in decisions. The AoS takes account of the fact that the effects of a plan or programme may change over time and the temporal effects of the NPS have been considered in the AoS where this is appropriate. The Monitoring Strategy will be run for five years before review so any effects that occur within five years will be covered. The Review will need to take account of the assessment of any longer term effects. Finally, in making assessments a number of factors were taken into account, of which regulatory measures was one. It is quite reasonable therefore that assessments may vary despite the existence of regulatory measures due to the varying other factors that would need to be taken into account in each case.

## Water

Given the potential for an increase in water requirements which may adversely affect the wider environment, the assessment of “minor positive” against AoS objective 7 was questioned.

### Response

Table 8.3 of the AoS (see Annex 4) has been amended to include a paragraph which states that these positive effects may only be possible with suitable mitigation. As long as appropriate mitigation is in place (and the NPS states that for facilities with a high degree of water use applicants must state what measures they intend to put in place to provide suitable mitigation) we continue to believe impacts will be “minor positive”.

## Do you agree with the conclusions and recommendations of the Report of the Appraisal of Sustainability of the draft NPS for Hazardous Waste?

### General

We were asked why the AoS has consolidated positive and negative effects to give an overall assessment of positive effects; whether more impacts should have been assessed as “uncertain” given that much will depend on location; why some AoS objectives were missing from Table 5.1; why the environmental effect of Treatment Plant for Air Pollution Control (APC) Residues is shown in the AoS Report (Paragraph 8.8.46) as “minor” without stating whether it is negative or positive.

Paragraph 8.2.5, which states that almost all impacts will be long-term/permanent and irreversible was queried, given that the SEA Directive requires also the consideration of secondary, combination, synergistic short term and temporary effects.

### Response

The NPS is not locationally specific. The AoS could therefore only reasonably look at the potential effects and has assessed these as broadly positive. Defra acknowledges that much will depend on factors such as location and has added text to paragraph 1.4.3 of the NPS to state this. However, it is considered that the NPS has the potential for a positive effect. The baseline from which the judgement is made is one where there would be no NPS and decisions would be made on the basis of existing planning guidance. The NPS gives clear information about the need for hazardous waste facilities and the types of facility that are needed. It also includes some specific information over and above that in the existing planning guidance and this seems likely to give positive results. The missing objectives (AoS2, 7 and 15) have been added as an addendum to table 5.1 (see Annex 2 ). We can confirm the environmental effect of Treatment Plant for APC Residues shown in the AoS Report (Paragraph 8.8.46) as “minor” is positive.

The SEA Directive only requires the identification of likely significant effects and the AoS Report identified that all long-term effects are likely to be significant.

## Infrastructure

We were asked why there appears to be inconsistencies in Table 8.2 between the conclusions of the assessments on NPS policy and infrastructure type.

### Response

We do not consider there are inconsistencies between the conclusions of the assessments on NPS policy and infrastructure type. The assessment of general NPS policy against the objectives of the AoS might legitimately reach different overall conclusions to an assessment of the impacts of specific types of facility. However, we have noted a few other inconsistencies between the table and the text in section 8 and have produced an amended table 8.2 (see Annex 3).

## Do you have any further comments on the AoS Report or the appraisal described therein?

### General

Some consultees made comments on the AoS that were best addressed by changes to the NPS to ensure that particular impacts were taken into account. These cases are summarised in the separate Government response to consultation.

### Response

Some consultees felt that in places more up-to-date information or plans and programmes could have been used in the baseline. The AoS took account of a lot of data and it is inevitable that such data and plans and programmes will be updated periodically. Our consultants took a snapshot at the time they made the assessment using the best data and plans/programmes they could find. We are not aware that data or plans/programmes have changed so significantly that they would affect the assessments made. However, we have provided an amendment to the "Coastal Change and Marine Environment" section of table 4.2 to show that the risk of coastal erosion will **increase** in the future and have shown that detail on water resource availability can be obtained from Catchment Abstraction Management Strategies (see Annex 1).

# 5. Reasons for choosing the NPS for Hazardous Waste as adopted in the light of other reasonable alternatives

## 5.1 Introduction

5.1.1 As required by the SEA Directive, Section 7 of the AoS includes an assessment of reasonable alternatives to the policies set out in the NPS for Hazardous Waste at strategic level.

## 5.2 Process of Identifying Reasonable Alternatives

5.2.1 The development of the NPS and the reasonable alternatives was an iterative process, based on the SEA guidance<sup>8</sup> which states that only “reasonable, realistic and relevant” alternatives need to be put forward, and that it is helpful if they are sufficiently distinct to enable meaningful comparisons to be made of the environmental implications of each.

## 5.3 Reasonable Alternatives Considered for the NPS for Hazardous Waste

5.3.1 Defra and the AoS team identified key strategic policy alternatives, following the hierarchy set out in the SEA Directive. Initially, consideration was given to strategic alternatives to meeting the need for new infrastructure. In particular, could more be done to prevent hazardous waste arising? Section 7 of the AoS Report gives more detail of the analysis, but the conclusion was that there was no reasonable alternative to providing new infrastructure.

5.3.2 Consideration was then given to whether need could be met by a larger number of facilities with capacities of below the thresholds set out in the Planning Act. Consideration was also given as to whether there was a need for the NPS or whether a Business as Usual alternative would achieve the same objective and if an NPS was needed, whether greater benefits would be achieved through a centrally planned policy; whether there were preferred technologies that could be applied to secure optimum environmental outcomes or whether specifying locations for the facilities would secure a better outcome

### NPS for Hazardous Waste in line with Policy versus Business as Usual

5.3.3 In both cases hazardous waste would be managed in accordance with the Strategy for Hazardous Waste Management in England and in both cases development would be likely to be brought forward. However, the NPS would set out specific guidance and environmental criteria that should be taken into account in the development of a new facility, its siting or operation.

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<sup>8</sup> Office of the Deputy Prime Minister (ODPM)(September 2005) A Practical Guide to Strategic Environmental Assessment Directive , London HMSO.

## **Relying on a larger number of smaller facilities**

5.3.4 A small facility assumes that for the same volume of hazardous waste needing treatment, several smaller facilities would be constructed with capacities below the threshold set out in the Planning Act 2008. Such facilities would have cumulative impacts.

## **Central Planning of Infrastructure**

5.3.5 A central planning policy is one in which the Government makes decisions regarding when and where hazardous waste infrastructure should be provided and dictates these decisions to the hazardous waste sector.

## **Government Prescription on Appropriate Technologies**

5.3.6 A prescribed technologies approach would assume that Government should prescribe the specific type(s) of technologies that should, for each hazardous waste stream, be employed in the development of new infrastructure.

## **Identification of Suitable and Unsuitable Locations for Infrastructure**

5.3.7 An approach of identifying suitable and unsuitable locations for infrastructure would mean that the Government would play a direct role in determining the location of hazardous waste infrastructure. This could take a variety of forms: the state determining exactly where development should take place; the state ruling out certain areas; or the state singling out certain areas for development, but allowing the private sector to determine whether or not they are viable.

## **5.4 Preferred Option for the NPS for Hazardous Waste**

5.4.1 There is a need to provide new facilities for the management of hazardous waste. The assessment set out in Section 7 of the AoS Report concluded that the guidance in an NPS would provide greater certainty than a business as usual option for industry, the public and regulators on the government's intentions for the conditions in which new infrastructure might be allowed. The assessment of opting for a larger number of smaller facilities outside the thresholds set by the Planning Act showed that the development of one or several large facilities should perform slightly more positively against environmental, social and economic objects than small facilities, taking into account the measures proposed in the NPS for large facilities, although this would depend on the exact type of infrastructure and the technology used.

5.4.2 In terms of the alternative approaches that could be taken in an NPS, the assessment concluded that there might be some advantages in a centrally planned, technology specific or locationally specific approach because setting out exactly what should and should not be done could help facilitate the achievement of objectives. However, there were also disadvantages. For example, innovation might be stifled, which would reduce the potential for future improvements to infrastructure that could contribute positively to the objectives. A

locationally specific approach might have some advantage in allowing environmental and social constraints to be considered at a strategic level. However, all these approaches would fail to recognise that the Strategy for Hazardous Waste Management in England is based on the principle that Government looks to the market to provide the infrastructure needed as it is industry that has the expertise required to consider where facilities are needed and the appropriate technologies to use. The assessment concluded that an NPS which looked to the market to bring forward proposals for new infrastructure and allowed the market to determine technology types and locations would be able to achieve environmental, social and economic objectives with the inclusion of appropriate guidance to applicants and decision makers and suitable mitigation measures. This is therefore the option we have selected.

**Table 4.2 Summary of Baseline Information**

Topic	Summary of Current Contextual Baseline	Baseline issues of relevance to the NPS	Future Baseline	Limitations/Unavailable data	Key Sustainability issues
<b>Water Quality and Resources</b>	<p><i>Water Quality</i></p> <p>Chemical and biological water quality in England has shown improvement since 1990</p> <p>For Biological quality in 2008, 72% of English rivers were at the best on record level and 79% of English rivers were at excellent or good quality in terms of organic pollution.</p> <p>Surface water bodies quality assessments show that 29% meet good ecological status or better.</p>	<p>Since water is a key component in many hazardous waste management activities, the NPS should encourage the maximisation of water efficiency and reduction of facility water consumption.</p> <p>The NPS can provide a framework to prevent the deterioration of the status of all bodies of water, surface water and ground water.</p>	<p>Water quality may improve in the future. However, demands on water and water resource availability/ security of supply is likely to become an increasingly important issue due to increases in population and predicted climate changes also will make it inevitable that action to improve the safety of small water supplies in Europe will feature highly in the future<sup>9</sup>.</p>	<p>Consumption of water per hazardous waste management option.</p> <p>Potential risk of affecting water quality/accidental spillage from different hazardous waste management facilities.</p>	<p>The Water Framework requires that deterioration of the status of all bodies of water is prevented, that surface water and ground water achieve good status by 2015 and pollution is reduced to all bodies of water and that discharges of 'priority hazardous substances' (the most toxic substances discharged to waters) cease by 2020. This will have implications for the management of hazardous waste in the future in terms of ensuring that facilities do not contribute to deterioration in water quality and also in ensuring that facilities do not contribute to deterioration in water quality and also in ensuring that facilities contribute to the target of good status. In addition, River Basin Management Plans (RBMP) will need to be considered with regard to the quality of discharges. The RBMP aim to ensure the integrated management of groundwater, rivers, canals, lakes; reservoirs, estuaries and other brackish waters; coastal waters; and the water needs of terrestrial ecosystems that depend on ground water such as wetlands<sup>10</sup>.</p>

9 <http://www.environment-agency.gov.uk/business/topics/water/119927.aspx>

10 [http://www.wfd.uk.org/about\\_wfd/](http://www.wfd.uk.org/about_wfd/)



Topic	Summary of Current Contextual Baseline	Baseline issues of relevance to the NPS	Future Baseline	Limitations/Unavailable data	Key Sustainability issues
	<p>Groundwater assessments show that 65% meet good quantitative status and 59% meet good status for chemicals.</p> <p>In 2008, England achieved 99.96 compliance with the European Drinking Water</p> <p><i>Water Resources</i></p> <p>In 2005/06 water consumed by domestic and non-domestic sources in the UK was 13,234 ML/day. There are significant pressures on water resources which affect both the water environment and water supplies. There are many catchments where there is little or no water available for abstraction during dry periods<sup>11</sup>. Water supply currently crosses national boundaries.</p>				<p>Management processes themselves can result in direct or indirect releases that may affect water quality if they are not managed to regulatory requirements. Landfill leachate is not considered a key issue due to strict controls on hazardous waste landfills to avoid leachate; other facilities may require emissions to watercourses. However, this would be controlled under Environmental Permitting Regimes.</p> <p>Despite strict controls there is the potential for accidental spillage or uncontrolled spillage from hazardous waste facilities. Consequently, hazardous waste discharges to water sources will need to be closely controlled and designs for operations of new infrastructure must avoid or minimise the risk of spillage.</p> <p>The impact on coastal water quality is most likely to occur in relation to recycling sites for end of life ships, where coastal location is a requirement; there may be a risk that contamination from recycling enters the marine environment.</p>

11 <http://www.environment-agency.gov.uk/business/topics/water/119927.aspx>

Topic	Summary of Current Contextual Baseline	Baseline issues of relevance to the NPS	Future Baseline	Limitations/Unavailable data	Key Sustainability issues
	<p>33% of drinking water supplies are currently sourced from groundwater in England and Wales.</p>				<p>Most vessels contain large amounts of hazardous materials such as asbestos, oils and oil sludge, polychlorinated bi-phenyls (PCBs), and heavy metals in paints and equipment and therefore their safe management is imperative in relation to the marine environment. There is also potential for impact during transfer of ships to land and vice versa during handling and storage.</p> <p>Water is an essential resource and is a key component in many hazardous waste management activities. This is likely to be a future issue in terms of water availability, safety and security. The development of alternative new technologies may assist in limiting water demand and risk associated with water quality. Hazardous waste facilities with a high water demand should be located with due consideration to local water resources and operational activities that reduce water demand.</p>

Topic	Summary of Current Contextual Baseline	Baseline issues of relevance to the NPS	Future Baseline	Limitations/Unavailable data	Key Sustainability issues
Coastal Change and the Marine Environment	<p>The UK has a total of 17,381km of coastline. Coastal processes resulting in flood and coastal erosion is a serious risk around the English coastline, with some 4,705km being affected by the impacts of coastal erosion equating to 27% of the entire coastline.</p> <p>Coastal flood and erosion risk is assessed as part of the shoreline management planning process. There are 22 Shoreline Management Plans (SMPs) that cover the entire coastline of England and Wales, providing the latest information on coastal changes, including social, economic and environmental data.</p>	<p>Recycling sites for end of life ships and/or oil regeneration facilities where a coastal location is needed, may have an impact on coastal processes and on the marine environment. Such sites may be at risk from coastal flooding or erosion, or may cause or exacerbate coastal flooding or erosion elsewhere.</p>	<p>SMPs are likely to play an increasing important role in the management of the coastal zone. In addition, the Marine and Coastal Access Act 2009 will create a new marine planning system designed to bring together the conservation, social and economic needs of the UK seas. A network of Marine Conservation Zones will be created that will protect rare and threatened species and habitats. The risk of coastal erosion will increase in the future and locations most at risk may change in response to climate change.</p>	<p>Different impacts of different types of hazardous waste facility.</p> <p>Location specific requirements of hazardous waste management facilities e.g. a ship recycling facility and potential impact on coastal geomorphology.</p>	<p><b>Key Sustainability Issue 10</b></p> <p>The impact of hazardous waste processes is most likely to occur in relation to recycling life for end of life ships, where a coastal location is a requirement, and/or oil regeneration infrastructure where a coastal location may be favourable. Such sites may be at risk from coastal flooding or erosion, or may cause or exacerbate coastal flooding or erosion elsewhere. These facilities may also have direct or indirect effects on the marine environment.</p> <p>Development on the coast could lead to localised or more widespread coastal erosion or accretion and changes to offshore processes. In the siting of new facilities that require a coastal location, the marine environment should be protected and zones prone to erosion and flooding, or where such processes may be exacerbated, should be avoided. Where a coastal location is not a requirement of a facility such locations that may give rise to coastal change should be avoided.</p>

## Annex 2

Table 5.1. AOS Framework (Objectives 2, 7 and 15)

AOS Key issue and objective	AOS Appraisal Criteria	SEA Topic
<b>ENVIRONMENTAL</b>		
<p><b>RESOURCES AND RAW MATERIALS</b></p> <p><b>AoS 2: To specify and use environmentally and socially responsible materials and resources, and to encourage resource efficiency</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS take into account the need to plan and design for facilities that maximise opportunities for reuse of energy generated, use of renewable energy and low-carbon technology?</li> <li>• How does the NPS encourage sustainable material selection e.g. embodied impacts easily cleanable and maintained, robust, durable, and reclaimable/recyclable?</li> <li>• Does the NPS identify opportunities to re-use hazardous waste/materials as an Energy Source (for example, Energy from Waste) in line with the Government target to generate 10% of UK electricity from renewable energy sources by 2010, and an aspiration of 20% by 2020?<sup>12</sup></li> </ul>	<p><b>Material Assets</b></p>
<p><b>Water Quality and Resources</b></p> <p><b>AoS 7: To optimise the opportunities for efficient water use, reuse and recycling and to ensure that natural water sources are protected, conserved and enhanced</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS encourage the maximisation of water efficiency and reduction of facility water consumption?</li> <li>• How does the NPS take into account the need to assess water resource availability?</li> <li>• How does the NPS ensure the protection of surface and groundwater quality, contributing to the Water Framework Directive objective to achieve at least good status in all inland and coastal waters by 2015?</li> <li>• How does the NPS recognise the need to protect and conserve the natural and healthy state of protected areas?</li> </ul>	<p><b>Water</b></p>

<sup>12</sup> Planning for renewable energy: a companion guide to planning policy statement 22.

AOS Key issue and objective	AOS Appraisal Criteria	SEA Topic
<b>SOCIAL</b>		
<p><b>Equality</b></p> <p><b>AoS 15: To involve, communicate and consult effectively with diverse stakeholders and communities, and ensure that the principles of equality and inclusivity are upheld</b></p>	<ul style="list-style-type: none"> <li>• How does the NPS comply with equalities legislation, in that no section of the population is likely to be disproportionately affected by waste management options?</li> <li>• Does the NPS prevent community fragmentation whilst encouraging greater social cohesion?</li> <li>• Does the NPS take into account the protection of environmental equity?</li> </ul>	<p><b>Population, Human Health</b></p>

# Annex 3

**Table 8.2: Summary of the AoS of the NPS for Hazardous Waste**

AoS Objective	NPS Policy	NPS Infrastructure						
		WEEE	Oil regeneration plant	Treatment plant for APC residues	Thermal Desorption Facilities	Bioremediation/Soil washing facilities	Ship Recycling Facilities	Hazardous waste landfill
AoS 1: Waste Management	+	+	+	+	+	+	-	+
AoS 2: Resources and Raw Materials	+	+	0	0	0	0	0	0
AoS 3: Climate Change Adaptation and Resilience	+	+	+	+	+	+	+	-
AoS 4: Air Quality and Emissions	+	+	+	+	+	+	+	-
AoS 5: Traffic and Transport	+	+	+	+	+	+	+	-
AoS 6: Biodiversity, Flora and Fauna	+	+	+	+	+	+	-	+
AoS 7 <sup>13</sup> : Water Quality and Resources	+	+	-	+	+	+	+	+

13 For facilities that use significant amounts of water or which may make discharges to water These positive cumulative effects may only be possible if effective mitigation measures are put in place to protect and improve water resources and water quality.

AoS Objective	NPS Policy	NPS Infrastructure						
		WEEE	Oil regeneration plant	Treatment plant for APC residues	Thermal Desorption Facilities	Bioremediation/Soil washing facilities	Ship Recycling Facilities	Hazardous waste landfill
AoS 8: Flood Risk	+	?	?	+	+	+	?	+
AoS 9: Soils and Geodiversity	+	+	+	+	+	++	+	+
AoS 10: Coastal Change and the Marine Environment	+/?	+	?	+	+	+	?	+
AoS 11: Landscape	+	+	+	+	+	+	+	-
AoS 12: Historic Environment	+	+	+	+	+	+	+	+
AoS 13: Population	+	0	0	0	+	+	0	+
AoS 14: Health and Well Being	+/-	+	+	+	+	+	+	+
AoS 15: Equality	0	0	0	0	0	0	0	0
AoS 16: Noise	+	+	+	+	+	+	+	+

AoS Objective	NPS Policy	NPS Infrastructure						
		WEEE	Oil regeneration plant	Treatment plant for APC residues	Thermal Desorption Facilities	Bioremediation/Soil washing facilities	Ship Recycling Facilities	Hazardous waste landfill
AoS 17: Spatial Planning and Land Use	+/-	+	+	+	+	+	+	+
AoS 18: Military and Civil Aviation	+/?	+	+	+	+	+	+	0
AoS 19: Economy	+/0	0	0	0	0	0	+	0
AoS 20: Employment and Business	+/0	0	0	0	0	0	0	0
AoS 21: Education and Training	+/0	0	0	0	0	0	0	0

++	Significant positive impact	+	Minor positive impact	0	Neutral impact	-	Minor negative impact	--	Significant negative impact	?	Uncertain
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# Annex 4

**Table 8.3: Cumulative effects identified in the assessment of the NPS**

Relevant section(s) of the NPS	Effects	Causes	Potential significance
All	Cumulative effects of hazardous waste management	The measures set out in the NPS are likely to result in a net benefit through the provision of facilities that are more sustainable than the business as usual case. This will contribute to reducing potential impacts on all AoS objectives.	Minor Positive
4.5, 3.3, 4.1, 4.2, 4.13, 4.14, 5.14, 5.15	Cumulative effects on resources and raw materials	The implementation of the NPS will provide cumulative constraints on the use of raw materials and resources in the development of hazardous waste management facilities, thus contributing to their sustainable use and reducing overall consumption.	Minor Positive
4.1, 4.2, 4.5, 4.6, 4.7, 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, 5.2, 5.7	Cumulative effects on climate change and adaptation	New hazardous waste infrastructure has the potential for direct cumulative effects on climate change and adaptation to climate change. The development of new infrastructure through increased air emissions which contribute to climate change. Indirect cumulative effects may also arise due to the transportation of hazardous waste to facilities.	
		However, the NPS encourages more sustainable options for hazardous waste management and modes of transportation, which have the potential to positively affect the rate of climate change especially when compared to the business as usual case. The NPS also sets out measures aimed at ensuring resilience to climate change. The overall net effect, when compared to the business as usual case, however, is likely to be minor positive.	Minor Positive

Relevant section(s) of the NPS	Effects	Causes	Potential significance
4.1, 4.2, 4.5, 4.6, 4.7, 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, 4.6, 4.7, 5.2, 5.7	Cumulative effects on air quality and greenhouse gas emissions	<p>There is potential for direct impacts to air quality from hazardous waste facility development, particularly in relation to construction activities, emissions from operational activities and secondary emission from traffic related to both construction and operation. There is also the potential for adverse cumulative effects on sensitive receptors from these air quality impacts with other impact types (e.g. noise and air emissions impacts on flora and fauna). Negative effects may arise where a number of proposals are consented in close proximity and/or are co-located with other similar facilities, where net emissions are increased. However, the NPS sets out a range of measures to control emissions, including consideration of design, siting and refusal of consent for infrastructure proposed in or close to existing AQMAs. It also encourages more sustainable options for hazardous waste management, which have the potential to positively affect the rate of climate change, and measures aimed at ensuring resilience to climate change, especially when compared to the business as usual case. Overall, the cumulative effect is likely to be positive, depending on the exact location of facilities in relation to other new/existing facilities.</p>	Minor negative or minor positive, depending on the location of new facilities

Relevant section(s) of the NPS	Effects	Causes	Potential significance
4.1, 4.2, 4.10, 4.13, 4.14, 4.15, 4.16, 4.18, 4.20, 5.2, 5.3, 5.4, 5.6, 5.11, 5.13	Cumulative effects on receptors from traffic and transport	Any increased traffic levels, particularly HGVs often associated with construction and hazardous waste management have the potential for adverse cumulative effects, including a reduction in air quality and increased noise emissions. However, the NPS requires for the most sustainable methods of transportation to be used and this to be taken into consideration during the design process. As such the overall effect should be minor positive.	Minor positive
4.1, 4.2, 4.3, 4.7, 4.13, 4.14, 4.17, 4.19, 4.20, 5.2, 5.3, 5.8	Cumulative effects on biodiversity, flora and fauna	<p>There is the potential for cumulative effects on biodiversity, flora and fauna from the development of hazardous waste facilities, directly, e.g. through the loss of habitat for development, or indirectly, e.g. through pollution of groundwater, emissions to air, noise etc.</p> <p>However, the NPS set out measures to minimise impacts to the environment, in terms of footprint, site layout, transportation requirements etc thus the effect compared to the business as usual case can be considered to be minor positive. However, these requirements do not necessarily avoid all adverse effects to biodiversity, flora and fauna. As such, cumulative effects may be negative or positive, depending on the specific location of facilities, their size and design.</p>	Minor negative and minor positive, depending on the specific location of facilities.

Relevant section(s) of the NPS	Effects	Causes	Potential significance
3.3, 4.1, 4.2, 4.6, 4.7, 4.19, 4.20, 5.2, 5.7, 5.13, 5.15	Cumulative effects on water quality and resources	Hazardous waste management facilities have the potential to have adverse effects on water quality and water resources, through potential contaminant issues and certain processes that require a substantial amount of water. The measures outlined in the NPS have the potential for positive cumulative effects on water quality and resources, including measures to minimise emissions of pollutants and contaminants to the environment and measures to reduce water demand. These positive cumulative effects may only be possible if effective mitigation measures are put in place to protect and improve water resources and water quality”.	Minor positive
4.1, 4.2, 4.6, 4.7, 4.14, 4.20, 5.2, 5.5, 5.7	Cumulative effects on flood risk	The NPS includes measures to keep the development of hazardous waste facilities away from area of flood risk, or to mitigate acceptable flood risks. Furthermore, ensuring the potential for adaptation to climate change should have a beneficial cumulative effect on flood risk.	Minor to major positive

Relevant section(s) of the NPS	Effects	Causes	Potential significance
4.1, 4.2, 4.15, 4.17, 4.18, 4.20, 5.3, 5.10	Cumulative effects on soils and geodiversity.	There are inherent risks of impacts to soils and geodiversity from hazardous waste management and the construction and operation of hazardous waste management facilities. However, measures outlined in the NPS are designed to minimise these risks, including favouring low sensitivity sites (e.g. brownfield sites where available) for new developments and measures to avoid emissions that could damage soils. The cumulative effect with landscape constraints also has the potential to be beneficial in preventing development in areas of geological significance. There is also a potential positive effect that will be brought about by the appropriate treatment of contaminated soils using soil treatment facilities.	Minor positive
4.1, 4.2, 4.6, 4.16, 4.17, 4.19, 4.20, 5.2, 5.5, 5.7, 5.10, 5.15	Cumulative effects on coastal change and the marine environment	There is potential for beneficial cumulative effects on coastal change and the marine environment from the measures proposed in the NPS to site the development of hazardous waste management facilities in appropriate areas and limit emissions that could harm the marine environment.	Minor positive

Relevant section(s) of the NPS	Effects	Causes	Potential significance
3.3, 4.1, 4.2, 4.5, 4.7, 4.13, 4.14, 5.2	Cumulative effects on landscape	<p>The NPS includes measures to minimise or mitigate potential adverse impacts to landscape from the development of hazardous waste management facilities in appropriate siting of such facilities.</p> <p>However, given the nature of such infrastructure, avoidance of all adverse impacts is not possible. Cumulative effects will also depend on the location of new facilities in relation to other new and existing facilities.</p> <p>Thus depending on the type of facility, design and location overall cumulative effects may be positive or negative.</p>	Minor negative and positive
4.1, 4.2, 4.5, 4.14, 4.15, 4.16, 4.17, 4.18, 5.3, 5.4, 5.7, 5.8, 5.9, 5.15	Cumulative effects on historic environment	<p>The development of hazardous waste management facilities has the potential to cause adverse impacts on the historic environment, e.g. through the damage or destruction of sub surface archaeology, or the potential to adversely affect areas of heritage value. However, the NPS contains measures to minimise impacts on the historical environment, while in addition, measures such as the constraints on developments in areas of landscape/townscape importance, may have beneficial cumulative effects on the historic environment.</p>	Minor positive

Relevant section(s) of the NPS	Effects	Causes	Potential significance
4.1, 4.2, 4.4, 4.13, 4.10, 5.4, 5.5, 5.8, 5.15	Cumulative effects on population	<p>Cumulative effects from the development of hazardous waste management facilities have the potential for adverse effects on the local population through severance, increased noise levels, air emissions etc.</p> <p>The NPS contains measures to minimise and, where possible, mitigate these adverse effects, including the requirements for a social impact assessment. However, the overall cumulative effect on populations will depend on the specific location of facilities in relation to the population and in relation to other new/ existing facilities and also the design employed at each facility. Cumulative effect on population is therefore uncertain, and could be positive if all the measures identified in the NPS are taken on board.</p>	Minor negative to minor positive, depending on the location of new facilities in relation to other facilities and the specific design of each facility.
4.1, 4.2, 4.4, 4.10, 4.11, 4.13, 4.14, 4.15, 4.19, 4.17, 4.18, 5.4, 5.5, 5.8, 5.10, 5.11, 5.13, 5.14, 5.15	Cumulative effects on health and wellbeing	<p>The development of hazardous waste management facilities has the potential for adverse cumulative effects on health and wellbeing largely from the potential for sensitive receptors to come into contact with hazardous waste and/or harmful emissions. These effects may be greater where new facilities are located in close proximity to other new or existing facilities. However, there is potential for beneficial cumulative effects on health and wellbeing from the measures identified in the NPS, e.g. those measures to mitigate pollution to soil, water and air, those to limit noise impact or to limit visual impact.</p>	Minor negative to minor positive, depending on the location of new facilities in relation to other facilities and the specific design of each facility.

Relevant section(s) of the NPS	Effects	Causes	Potential significance
4.1, 4.2, 4.4, 4.10, 4.13, 5.4, 5.5, 5.8, 5.13	Cumulative effects on equality	The EqIA identified potential impacts from the NPS on equality, particularly regarding age, disability, gender and race. There is potential for cumulative effects from the NPS on these equalities. However, measures set out in the NPS may also contribute to minimising such effects when compared to the business as usual case.	Minor negative or positive
4.1, 4.2, 4.5, 4.7, 4.10, 4.11, 4.15, 4.17, 5.4, 5.11, 5.12, 5.13	Cumulative effects on receptors from noise	The operation of hazardous waste management facilities has the potential to increase noise levels at nearby sensitive receptors. In addition, any increase in construction and/or operational traffic following NPS approved hazardous waste management facilities has the potential for adverse cumulative effects on noise sensitive receptors. However, the NPS outlines requirements for noise mitigation and minimisation.	Minor positive
4.1, 4.2, 4.5, 4.6, 4.7, 4.10, 5.3, 5.4, 5.5, 5.6, 5.7, 5.10, 5.12, 5.13, 5.15	Cumulative effects on spatial planning and land use	There is the potential for conflicts between decisions made using the NPS and the requirements of Local Planning Authorities. Cumulative effects on spatial planning however are reduced by the requirements set out in the NPS to take land use planning into consideration in the siting of any new infrastructure.	Minor positive
4.1, 4.2	Cumulative effects on military and civil aviation	Cumulative effects of the NPS on military and civil aviation are not considered to be significant.	Neutral



Relevant section(s) of the NPS	Effects	Causes	Potential significance
4.1, 4.2, 4.4, 5.2, 5.4, 5.5, 5.8, 5.9, 5.10, 5.12, 5.13	Cumulative effects on economy	There is potential for cumulative effects of the measures proposed in the NPS for the provision of hazardous waste management facilities on the economy. These have the potential to be both adverse and positive. On the one hand requirements of the NPS may constrain development and reduce related economic benefits or fail in providing sufficient incentives for developers to realise cumulative economic impacts. On the one hand requirements of the NPS may constrain development and reduce related economic benefits or fail in providing sufficient incentives to developers to realise cumulative economic impacts. On the other hand appropriate design and siting of hazardous waste management facilities has the potential for beneficial cumulative effects on the economy, for example by reducing development in inappropriate areas (e.g. areas of landscape beauty that may be an attraction for tourism.)	Minor negative and positive
4.1, 4.2, 4.5, 4.7, 4.13, 4.14, 5.2, 5.4, 5,12	Cumulative effects on employment and business	Cumulative effects upon business and employment will be similar to those cumulative effects on the economy.	Minor negative and positive
4.1, 4.2, 4.5, 4.7, 4,13, 4.14, 5.2	Cumulative effects on education and training	The NPS sets out requirements for Applicants to consider education and training, however effects are likely to only be felt very locally.	Neutral to minor positive

**Table 8.4: Cumulative effects identified in combination with other plans**

**Addendum**

Plans	Effects	Causes	Potential significance
Non- Nuclear NPS	Cumulative effects on biodiversity, flora and fauna, coastal change and the marine environment, soil and geodiversity, and water resources	Potential impacts may include changes in water quality, direct habitat and species loss and habitat fragmentation of wildlife corridors, from the construction of facilities and related infrastructure to manage and handle waste, disturbance, and emissions affecting air quality. The development, operation and decommissioning of non-nuclear power sites may also result in the increased risk of pollution and potential contamination of soils and controlled water. However, significance of the local cumulative effect will depend on the location of new hazardous waste infrastructure in relation to new non- nuclear waste infrastructure	Minor Negative
Wastewater NPS	Cumulative effects on biodiversity, flora and fauna, coastal change and the marine environment, soil and geodiversity, and water resources. Possible cumulative effects on water quality	Potential impacts may include changes in water quality, direct habitat and species loss and habitat fragmentation of wildlife corridors, from the construction of facilities and related infrastructure. There may also be a cumulative impact on air quality and emissions and on noise.	Minor Negative



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